

alighted upon the outside of the tent was pounced upon by the wasps on the inside, and such objects, mere shadows or stains, were repeatedly attacked by the same wasp over and over again, often with only half a minute's interval or even less than that. I can not now recollect exactly the estimate I made at the time (but failed to record) of the relative number of attacks upon false objects to those upon proper victims, but I am under the impression that the mistakes were to the correct judgments as twenty or thirty to one. My observations were continued for two or three hours and repeated on subsequent days for briefer times, always with an identical result. These observations seem to be entirely in keeping with the forced experiments of Professor Plateau upon the vision of wasps, and lead to the conclusion formulated by him that the vision of these insects, even when in flight, is exceedingly defective, judged by our own standards.

Samuel H. Scudder.

SECOND BROOD OF CALLOSAMIA PROMETHEA.—Last May and June a large number of *Callosamia promethea* emerged in my house and mated. From these I obtained a brood of larvae some weeks in advance of those to be found out of doors. These pupated in June and July, and, to my surprise, I raised a second small brood of more than a dozen specimens before the 20th of August. Some of these hatched at a normal summer temperature, others in the sun, or near a fire. The greater part of them were males. The two sexes paired readily. On the 20th and 21st respectively I found a large male hovering about the cage in which my females were kept. It would be interesting to know whether these free males belonged to another brood or had hatched from cocoons made by escaped members of the same brood to which my females belonged, as this would go far toward settling the question of an occasional second brood under natural conditions in this species.

The eggs laid by my females began to hatch 4 September and at first ate well and seemed to be thriving: but by the 28th most of them had succumbed, either to some innate weakness, or to the unusual dampness which caused such mortality amongst larvae during the summer of 1889.

Holmes Hinkley.

NOTES ON EMESA LONGIPES, De Geer.—This interesting insect has been very abundant in Central Ohio during the past summer, occurring especially in a row of Norway spruces on the university grounds, where we have collected great numbers by beating. I kept a number alive in the insectary, and obtained many of the eggs, which I believe have never been described.

Besides the trees above mentioned these bugs were frequently obtained in miscellaneous beatings in the woods, and occasionally occurred in numbers in carriage sheds.

The only observation upon their feeding habits I am able to record was made by an assistant, Mr. F. W. Rane, who found one in a shed devouring a small white moth, possibly *Spilosoma virginica*, grasping its victim by its strong front legs.

This *Emesa*, with its exceedingly long legs and body, and small wings, seems poorly prepared for flying, and as a matter of fact it is very difficult to get one to fly by disturbing it. That they do so voluntarily, however, was shown by their being taken on the wing in the middle of a field. In the Proceedings of the Boston society of natural history v. 14, p. 391, Dr. Hagen states that the eggs are of an elongated, conical form.

The only other mention of the eggs I have found is the following sentence by Mr. Uhler in the Standard natural history (v. 2, p. 277): "We do not yet know where it deposits the eggs; but from analogy we are led to believe that these are glued to the twigs of bushes and trees, just as is the case with many others of the great group to which this species belongs."